

SDC Series



- High Power Density
- Low Leakage Current Option
- Single & Dual Outputs
- Up to 700 W Peak Power
- Fan Fail & Power Good Signals
- Fits 1U Applications
- Output Voltages from 5 V to 60 VDC

Specification

Input

Input Voltage	• 90-132 VAC/180-264 VAC, auto ranging
Input Frequency	• 47-63 Hz
Input Current	• 8 A at 115 VAC, 4 A at 230 VAC
Inrush Current	• Max 70 A at 230 VAC, 35 A at 115 VAC, cold start
Power Factor	• To EN61000-3-2 Class A
Earth Leakage Current	• <1.5 mA at 264 VAC, option '-L' 500 μ A leakage current
Input Protection	• Fitted with a T8 A/250 V fuse

Output

Output Voltage	• See tables
Output Voltage Trim	• $\pm 5\%$ on V1 (V2 of dual output models will track by same % of adjustment)
Initial Set Accuracy	• $\pm 1\%$
Minimum Load	• 1% on single output models, 10% on dual output models
Start Up Delay	• 1.5 s max at 120 VAC
Start Up Rise Time	• 50 ms typical
Hold Up Time	• 20 ms min at 80% of full load
Line Regulation	• $\pm 0.5\%$
Load Regulation	• $\pm 1\%$ 1-100% load for single outputs, $\pm 3\%$ V1, $\pm 7\%$ V2 for dual outputs (except AD0548 version: $\pm 11\%$ on V2)
Over/Undershoot	• 5% max
Transient Response	• $\pm 5\%$ max deviation, recovery to within 1% in 500 μ s for a 50% load change
Ripple & Noise	• 1% pk-pk (see note 3)
Overvoltage Protection	• 105-130% on V1 recycle AC input to reset
Overtemperature	• Measured internally auto recovery
Overload Protection	• 110-140%
Short Circuit Protection	• Trip & restart, auto recovery
Fan Supply	• 12 VDC 400 mA, not available on '-F' & '-E' versions with built-in fans

General

Efficiency	• Single output models: 3.3 V & 5 V models 70%, 12 V models 80%, all other models >83% at 230 V & full load. Dual output models: >70% at 230 V & full load
Isolation	• 3000 VAC Input to Output 1500 VAC Input to Ground 250 VDC Output to Ground
Switching Frequency	• 22 kHz for single output models, 25 kHz for dual output models typical
Power Density	• 8.9 W/In ³
Signals	• Fan Fail & Power Good
MTBF	• 100 kHrs to MIL-STD-217F

Environmental

Operating Temperature	• 0 °C to +70 °C, derate at 2.5%/°C from +50 °C to +70 °C for forced air cooling. 0 °C to +60 °C, derate at 5%/°C from +50 °C to +60 °C for convection cooling.
Storage Temperature	• -20 °C to +85 °C
Operating Humidity	• 5-90%, non-condensing
Storage Humidity	• 5-90%, non-condensing
Cooling	• '-F' & '-E' versions have built-in fans, 5 V single output model requires 22 CFM to meet forced air ratings, all other models require 18 CFM
Operating Altitude	• 3000 m
Vibration	• 5-50 Hz, acceleration 7.35 ms ² on X, Y and Z axis

EMC & Safety

Emissions	• FCC Part 15 & EN55022 Level B conducted & radiated
Harmonic Currents	• EN61000-3-2, EN61000-3-3
ESD Immunity	• EN61000-4-2, level 3 Perf Criteria A
Radiated Immunity	• EN61000-4-3, 3 V/m Perf Criteria A
EFT/Burst	• EN61000-4-4, level 2 Perf Criteria A
Surge	• EN61000-4-5, level 3 Perf Criteria A
Conducted Immunity	• EN61000-4-6, 3V Perf Criteria A
Dips & Interruptions	• EN61000-4-11 70% U _T for 500 ms, 40% U _T for 100 ms, <5% U _T for 5000 ms Perf Criteria A, B, B
Safety Approvals	• UL60950-1, CSA C22.2 No. 60950-1, EN60950-1:2001

Output Power		Voltage	Output 1			Output 2				Model Number ⁽²⁾
Forced Air Cooled	Convection Cooled		Current			Voltage	Current			
			Forced Air	Convection	Peak ⁽¹⁾		Forced Air	Convection	Peak ⁽¹⁾	
225 W	136 W	5 V	45.00 A	27.28 A	140.00 A					SDC320AS05
260 W	147 W	9 V	29.10 A	16.37 A	77.79 A					SDC320AS09
320 W	180 W	12 V	26.67 A	15.00 A	58.33 A					SDC320AS12
320 W	180 W	15 V	21.33 A	12.00 A	46.77 A					SDC320AS15
320 W	180 W	18 V	17.78 A	10.00 A	38.89 A					SDC320AS18
320 W	180 W	24 V	13.33 A	7.50 A	29.17 A					SDC320AS24
320 W	180 W	28 V	11.43 A	6.43 A	25.00 A					SDC320AS28
320 W	180 W	36 V	8.88 A	5.00 A	19.44 A					SDC320AS36
320 W	180 W	48 V	6.67 A	3.75 A	14.58 A					SDC320AS48
320 W	180 W	54 V	5.93 A	3.33 A	12.96 A					SDC320AS54
320 W	180 W	60 V	5.33 A	3.00 A	11.61 A					SDC320AS60
250 W	150 W	5 V	30.00 A	15.00 A	32.00 A	12 V	16.67 A	10.42 A	20.00 A	SDC320AD0512
250 W	150 W	5 V	30.00 A	15.00 A	32.00 A	24 V	8.33 A	5.20 A	10.00 A	SDC320AD0524
250 W	150 W	5 V	30.00 A	15.00 A	32.00 A	48 V	4.16 A	2.60 A	5.00 A	SDC320AD0548
300 W	150 W	12 V	16.67 A	12.50 A	20.00 A	24 V	8.33 A	6.25 A	10.00 A	SDC320AD1224

Notes

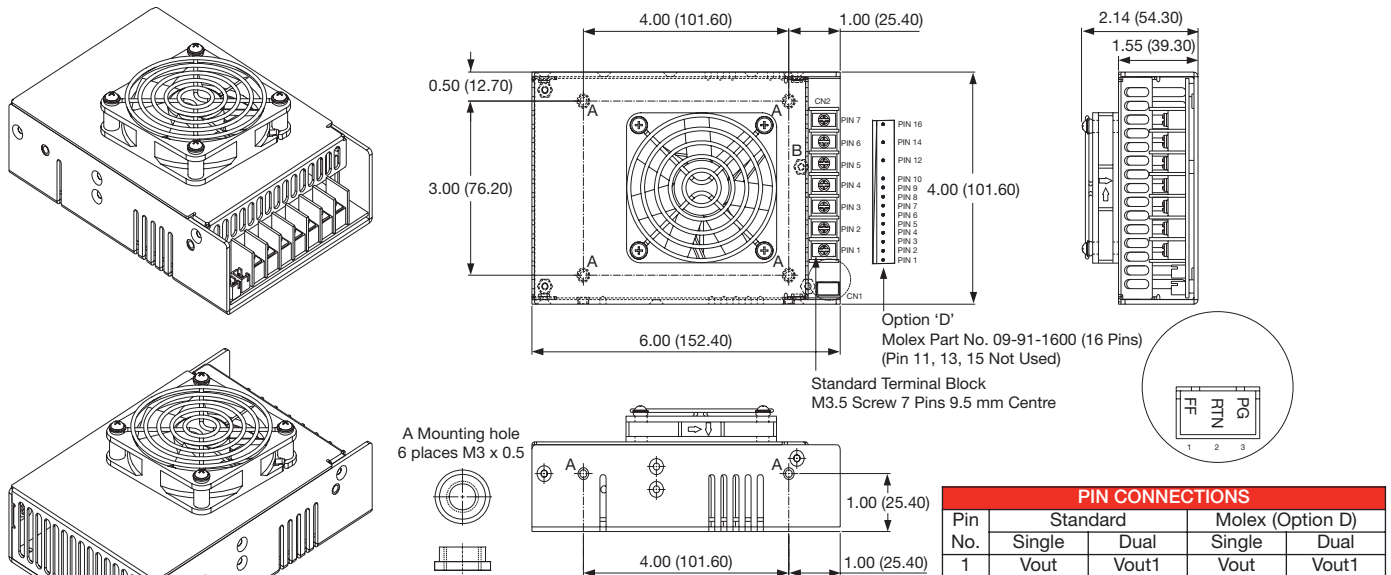
1. Peak load can be taken for 500 μ s. Average power not to exceed nominal power.
2. Add suffix '-L' to model number for optional 500 μ A leakage current.
3. Ripple & noise is measured using 0.1 μ F ceramic capacitor in parallel with 22 μ F electrolytic and 20 MHz bandwidth.

Mechanical Options

- Add suffix '-F' to the model number for a top fan cover (forced air cooled ratings apply).
- Add suffix '-E' to the model number for an end fan cover (forced air cooled ratings apply).
- Add suffix '-C' to the model number for a U-channel with vented cover.
Convection-cooled output power available 125 W for 5 V & 9 V model & 170 W for other single output models.
Convection-cooled output power available for 1224 dual output model is 150 W, 125 W for all other dual output models.
- Add suffix 'D' to the model number for Molex connector, not available on SDC320AS05.
- If no suffix is added to the model number the unit is a U-channel, convection-cooled ratings apply or external fan cooling required (22 CFM for 5 V model, 18 CFM for all other models).

Mechanical Details

Enclosed with Top Fan ('-F' Option)

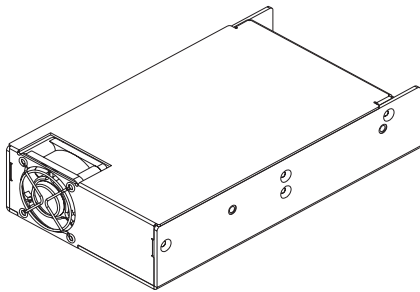
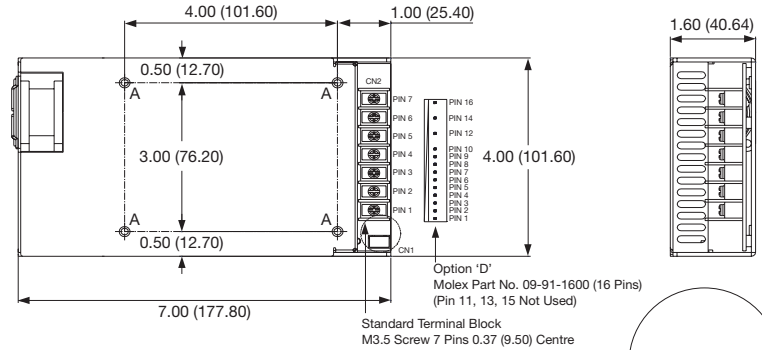
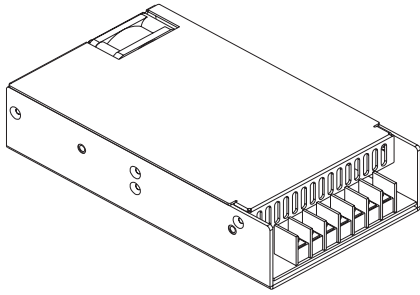


Signal Connector mating part is JST XHP-3
 Crimp terminals SXH-002-p0.6
 All dimensions are in inches (mm)
 Weight: 770 g (1.70 lbs)

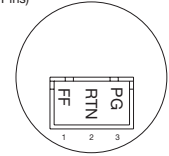
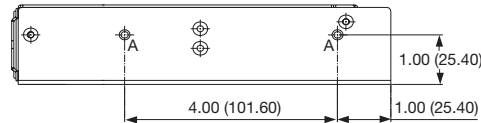
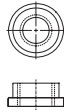
Pin No.	PIN CONNECTIONS			
	Standard		Molex (Option D)	
	Single	Dual	Single	Dual
1	Vout	Vout1	Vout	Vout1
2	Vout	Rtn	Vout	Vout1
3	Rtn	Rtn	Vout	Vout1
4	Rtn	Vout2	Vout	Rtn
5	Ground	Ground	Vout	Rtn
6	Neutral	Neutral	Rtn	Rtn
7	Live	Live	Rtn	Rtn
8			Rtn	Rtn
9			Rtn	Vout2
10			Rtn	Vout2
12			Ground	Ground
14			Neutral	Neutral
16			Live	Live

Mechanical Details

Enclosed with End Fan ('-E' Option)



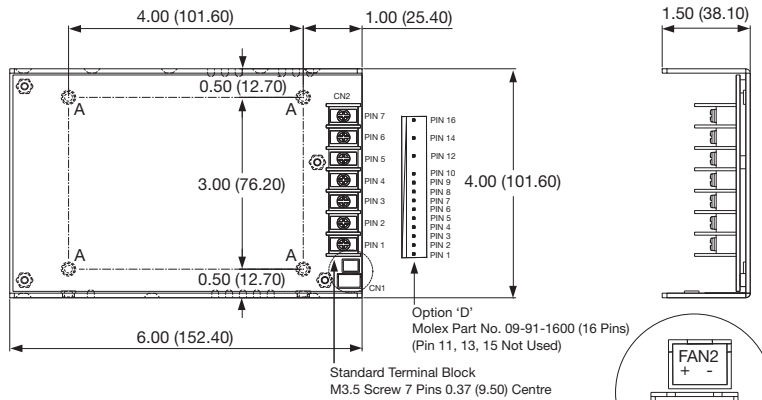
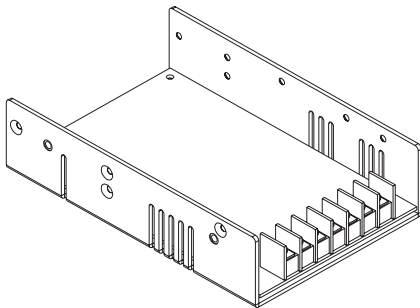
A Mounting hole
6 places M3 x 0.5



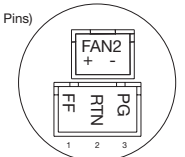
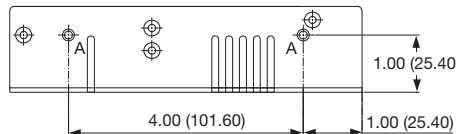
Pin No.	Standard		Molex (Option D)	
	Single	Dual	Single	Dual
1	Vout	Vout1	Vout	Vout1
2	Vout	Rtn	Vout	Vout1
3	Rtn	Rtn	Vout	Vout1
4	Rtn	Vout2	Vout	Rtn
5	Ground	Ground	Vout	Rtn
6	Neutral	Neutral	Rtn	Rtn
7	Live	Live	Rtn	Rtn
8			Rtn	Rtn
9			Rtn	Vout2
10			Rtn	Vout2
12			Ground	Ground
14			Neutral	Neutral
16			Live	Live

Signal Connector mating part is JST XHP-3
Crimp terminals SXH-002-p0.6
All dimensions are in inches (mm)
Weight: 800 g (1.76 lbs)

U-Channel



A Mounting hole
6 places M3 x 0.5

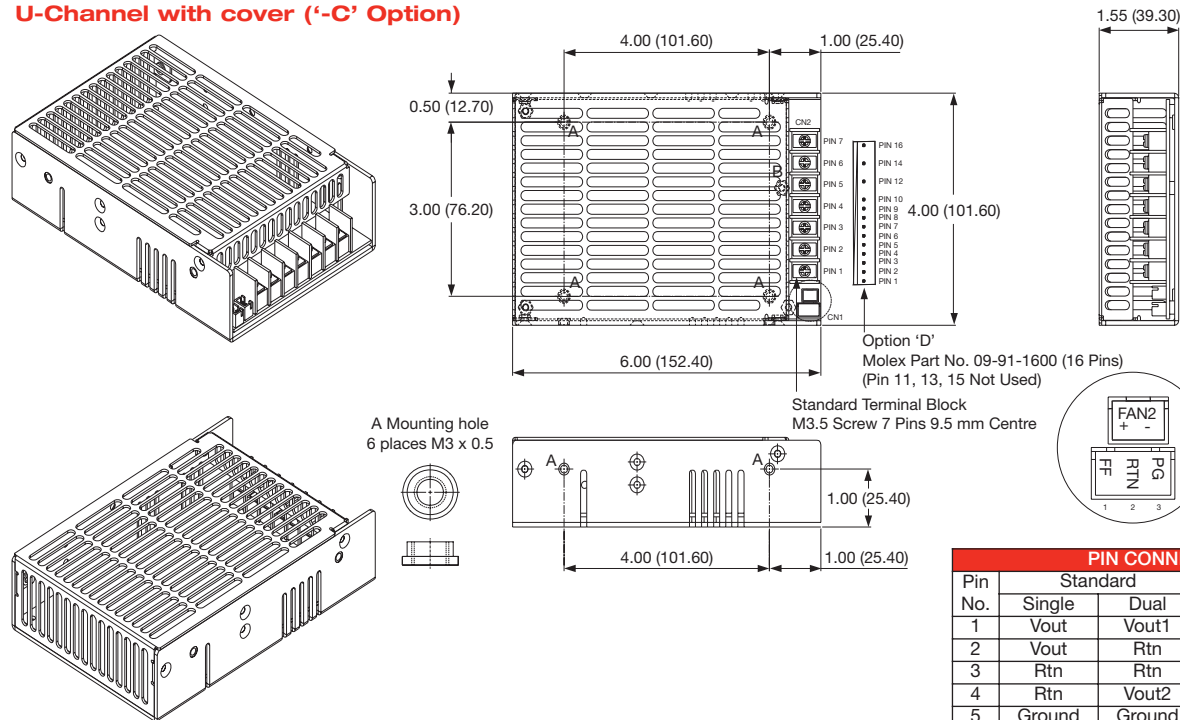


Pin No.	Standard		Molex (Option D)	
	Single	Dual	Single	Dual
1	Vout	Vout1	Vout	Vout1
2	Vout	Rtn	Vout	Vout1
3	Rtn	Rtn	Vout	Vout1
4	Rtn	Vout2	Vout	Rtn
5	Ground	Ground	Vout	Rtn
6	Neutral	Neutral	Rtn	Rtn
7	Live	Live	Rtn	Rtn
8			Rtn	Rtn
9			Rtn	Vout2
10			Rtn	Vout2
12			Ground	Ground
14			Neutral	Neutral
16			Live	Live

Signal Connector mating part is JST XHP-3
Fan Connector mating part is JST XHP-2
Crimp terminals SXH-002-p0.6
All dimensions are in inches (mm)
Weight: 680 g (1.50 lbs)

Mechanical Details

U-Channel with cover ('-C' Option)

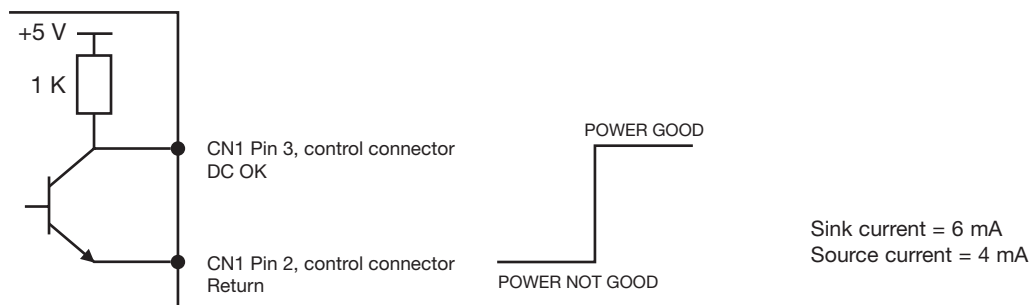


Signal Connector mating part is JST XHP-3
 Fan Connector mating part is JST XHP-2
 Crimp terminals SXH-002-p0.6
 All dimensions are in inches (mm)
Weight: 720 g (1.59 lbs)

Pin No.	PIN CONNECTIONS			
	Standard		Molex (Option D)	
1	Vout	Dual Vout1	Vout	Dual Vout1
2	Vout	Rtn	Vout	Vout1
3	Rtn	Rtn	Vout	Vout1
4	Rtn	Vout2	Vout	Rtn
5	Ground	Ground	Vout	Rtn
6	Neutral	Neutral	Rtn	Rtn
7	Live	Live	Rtn	Rtn
8			Rtn	Rtn
9			Rtn	Vout2
10			Rtn	Vout2
12			Ground	Ground
14			Neutral	Neutral
16			Live	Live

Application Notes

Power Good



Fan Fail

